CHEEF
CALIFORNIA HUB FOR
ENERGY EFFICIENCY FINANCING

ENERGY EFFICIENCY FINANCING PILOTS

QUARTERLY REPORT & PROGRAM STATUS SUMMARY

FIRST QUARTER 2019

CALIFORNIA ALTERNATIVE ENERGY AND
ADVANCED TRANSPORTATION FINANCING AUTHORITY
CAEATFA

Prepared by:
The California Alternative Energy and
Advanced Transportation Financing Authority
(CAEATFA)

Mailing Address
915 Capitol Mall, Room 538
Sacramento, CA 95814

...

Please direct questions about
California Hub for Energy Efficiency Financing (CHEEF) programs to:

CHEEF@treasurer.ca.gov
(916) 651-8157

Table of Contents

Contents

The State of California has ambitious goals to reduce greenhouse gas emissions and address climate change

In 2006, the Legislature passed the California Global Warming Solutions Act (Assembly Bill 32), which created a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California. In the subsequent Scoping Plans, intended to describe the approach California will take to reduce GHGs, one of the primary methods identified is increasing efficiency in existing buildings.

With so many headlines about electric vehicles, rooftop solar and other renewables, it's easy to forget how important energy efficiency is to the GHG reduction mix. Billions of square feet of existing commercial and residential properties are currently in need of energy upgrades—both the structures themselves and the energy using equipment they house.

There is simply not enough government or ratepayer funding to pay for these upgrades.

With this awareness, the California Public Utilities Commission (CPUC) allocated funds to launch several financing pilot programs designed to attract private capital to finance energy efficiency upgrades[1]. In its decision, the CPUC acknowledged that energy efficiency(EE) measures are the important tools for addressing greenhouse gas emissions, and that lowering the barriers to energy efficiency retrofits and financing—particularly in underserved market sectors—is critical to reaching the state's goals of reduced energy consumption and spreading benefits to all Californians.

Background

The California Public Utilities Commission Decision 13-09-044 (D. 13-09-044) authorized a series of financing programs, designed to attract private capital to finance energy efficiency upgrades, and established the California Hub for Energy Efficiency Financing (CHEEF) to administer the new programs. The CPUC requested the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) assume the administration of CHEEF, and directed the Investor Owned Utilities (IOUs) and CPUC staff to assist CAEATFA with implementation.

A core feature of the new financing programs is to incentivize private finance companies to improve terms or expand credit criteria for the financing of energy efficiency projects by providing a credit enhancement, funded with IOU energy efficiency ratepayer funds. This credit enhancement helps remove the upfront cost barrier for Californians to undertake energy efficiency retrofits. A key objective is to test whether transitional ratepayer support for credit enhancements can lead to self-supporting energy efficiency finance programs in the future.

In a separate document,[2] the CPUC further clarified the goals under which the financing programs would be evaluated.

The financing pilots should:

1. Be scalable
2. Be leveraged by private capital and able to support energy efficiency upgrades
3. Reach underserved Californians who would not otherwise have participated in EE upgrades
4. Produce energy savings

[1] Decision 13-09-044

[2] Resolution E-4900, published December 14, 2017

This report is prepared in response to D. 13-09-044, which directs CAEATFA, in conjunction with the IOUs, to issue quarterly reports on the progress of the CHEEF financing pilots. It contains quarter highlights and other informational items to keep interested parties informed as to program challenges and successes.

Program Participants

CAEATFA is working with the CPUC, IOUs, finance companies and several other key partners to develop a series of energy efficiency financing programs.

The following table describes the primary program participants and their roles. A complete list of organizations who make up the CHEEF infrastructure can be viewed in Appendix 1.

ENTITY	ACRONYM	PRIMARY ROLE
California Public Utilities Commission	CPUC	The CPUC authorized the financing programs and set guidelines for program design.
California Alternative Energy and Advanced Transportation Financing Authority, housed in the CA State Treasurer's Office	CAEATFA	CAEATFA is responsible for details of program design, implementation and finance company and contractor outreach and participation.
The Investor Owned Utilities: – Pacific Gas &Electric – San Diego Gas & Electric Company – Southern California Edison, and – Southern California Gas Company	IOU(s) PG&E® SDG&E® SCE® SoCalGas®	The IOUs contribute ratepayer funds to administer the programs and for credit enhancements, participate in program development and market the programs to their existing customers.
The Center for Sustainable Energy	CSE	CSE is the CHEEF Marketing Implementer, providing direct-to-end-user marketing for the programs.

Other common acronyms used throughout this report:

Residential Energy Efficiency Loan program	REEL
Small Business Energy Efficiency Financing program	SBF
Affordable Multifamily Energy Efficiency Financing program	AMF
On-Bill Financing	OBF
On-Bill Repayment	OBR

Quarter Highlights

REEL Keeps Growing

The REEL program continued to grow in Q1, enrolling 51 new REEL loans totaling $915,665. By the end of Q1, 390 loans totaling $6.67 million had been enrolled over the lifetime of the REEL program.

Reaching Underserved Borrowers

A little more than half (51%) of REEL loans were made to households in Low-to -Moderate-Income (LMI) census tracts and 20% to households in Disadvantaged Communities, as identified by CalEPA's CalEnviroScreen[3] tool.

IOU Marketing Efforts Drive Volume to GoGreen Financing

Marketing efforts through the IOUs' communication channels are well underway, with each IOU participating in REEL ME&O tactics in Q1 across a variety of channels. This combined effort led to over 24,000 unique visitors to the GoGreen Financing (GGF) website in Q1 2019 (details to follow in body of report).

EM&V Process for REEL Continues

Opinion Dynamics, Inc. continued the Evaluation, Measurement and Verification (EM&V) process for the REEL program begun in Q4 2018. The EM&V report is expected to be finalized and submitted to the CPUC for consideration in mid-2019. With the program evaluation pending, REEL continues to grow with limited resources, enrolling new loans and contractors.

Small Business Program Operations Development Ramps Up

The Small Business Energy Efficiency Financing (SBF) program regulations were approved by the CAEATFA Board and went into effect on December 17, 2018. With the approval of the program regulations, staff quickly began work to finalize the program's initial operational structures and procedures. Work began on construction of the GoGreen Financing website's SBF pages with an eye toward a limited program launch in Q2.

Small Business Program Enrolls First Lenders and Contractors

Two finance companies enrolled in the Small Business program, offering loans, leases and service agreements, and began establishing their own infrastructure to participate. In addition, IOU contractor recruitment began in February 2019, with four contractors and two project developers enrolled by the end of Q1.

Affordable Multifamily Program Regulations Approved

Development of the Affordable Multifamily Energy Efficiency Financing (AMF) program continued, with staff soliciting public input on AMF Program Regulations at a public workshop on Feb. 26, 2019. Staff worked to consider and incorporate public comments and anticipates that regulations will be brought to the CAEATFA Board for consideration, and ultimately approved by the Office of Administrative Law, in Q2 2019.

[3] https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30 Private lenders may leverage census tract data as a proxy for specific income disclosure. CAEATFA staff tracks project activity under CalEnviroScreen, which is a policy tool that is used by some state agencies to identify environmentally challenged communities. It includes qualities beyond income, including factors such as health indicators and proximity to parks, transit, and freeways. While the two often overlap, they are not identical. For example, a mountain community in northern California could be low-income but not considered disadvantaged under CalEnviroScreen.

Header images are those used on the gogreenfinancing website: www.gogreenfinancing.com/residential

The Residential Program (REEL)

The Residential Energy Efficiency Loan (REEL) Assistance program provides attractive financing to owners and renters of existing residential properties who select from a broad list of energy efficiency measures intended to reduce energy consumption. Customers may upgrade a single-family home, townhome, condo, duplex, triplex, fourplex or manufactured home. Renovations for up to four units can be bundled into the same loan.

As with all CHEEF programs, eligibility requires that the property receive electric or natural gas service from at least one of the IOUs: PG&E®, SDG&E®, SCE® or SoCalGas®. Properties in areas served by Community Choice Aggregators (CCAs) or Electric Service Providers (ESPs) qualify. Those in areas served by Publicly Owned Utilities (POUs) qualify only if they also receive energy service from an IOU (for example, electricity from the Sacramento Municipal Utility District and natural gas from PG&E). To be considered for a credit enhancement, however, a measure must use the type of energy that the IOU delivers.

REEL Lenders receive a credit enhancement of 11% of the claim eligible amount, or 20% if the borrower is considered underserved. CAEATFA defines underserved borrowers as either:

1. *Low-to-Moderate Income (LMI) Census Tract* – Area Median Income (AMI) of the borrower's census tract does not exceed 120% of the AMI for the Metropolitan Area, County, or State. To make this determination CAEATFA selected the existing geocoding tool administered by the Federal Financial Institutions Examination Council (FFIEC) Geocoding System.[4]
2. *Low-to-Moderate Income Household Income* – Borrower's household income is at or below the current annual income limits as determined by the California Department of Housing & Community Development and accounting for county of residence and family size.
3. *Credit-Challenged* – A borrower whose credit score is < 640 (if the lender has opted in to the Credit-Challenged facility by demonstrating additional benefits to credit-challenged borrowers).

Data regarding the number of underserved borrowers receiving REEL loans is discussed below.
REEL program regulations can be viewed here.[5]

Progress

REEL continued to show strong growth during Q1, enrolling 51 loans totaling $915,665 with an average project size of $17,954. By the end of Q1, the program had enrolled 390 loans with claim-eligible principal totaling $6.67 million since program inception.

The program continues to build momentum. Six of the seven REEL lenders enrolled loans during Q1 2019. The GoGreen Financing (GGF) website, which launched at the end of Q2 2018, continues to be refined from its initial rollout to meet

---

[4] https://geomap.ffiec.gov/FFIECGeocMap/GeocodeMap1.aspx

[5] REEL regulations are available online at https://www.treasurer.ca.gov/caeatfa/cheef/reel/regulations/2018/reel-e-regs-9-17-18.pdf

consumer and stakeholder needs; improvements emphasize user experience. The GGF website saw over 24,000 visitors in Q1 2019!

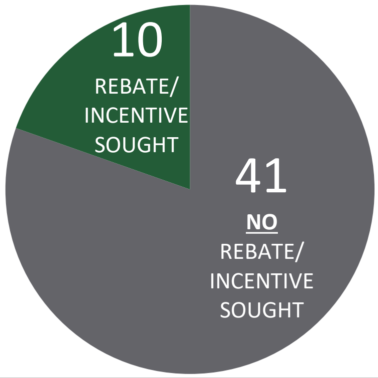
In Q4 2018, the REEL pilot program evaluation period began, as administered by the California Public Utilities Commission (CPUC). This evaluation will aid the CPUC in deciding the future of the program. Opinion Dynamics, Inc. was selected to perform the evaluation, measurement, and verification (EM&V) process. The report is expected to be finalized and submitted to the CPUC for its consideration in mid-2019.

REEL LOANS ENROLLED

The map shows the number of REEL loans enrolled, by county, from the start of the program through the end of Q1 2019. The chart below shows loan growth by quarter and average loan size.

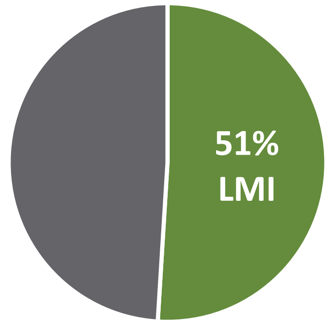
REEL: Facts and Figures for Q1 2019

REEL projects that sought IOU rebate/incentive*



*As indicated on Certificate of Completion

Percentage of REEL loans made to borrowers in LMI census tracts



LOW TO MODERATE INCOME (LMI) CENSUS TRACTS ARE DEFINED BY MEDIAN FAMILY INCOME <120% THE AREA MEDIAN INCOME

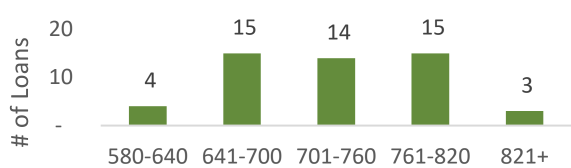
322 REEL Participating Contractors

$915,665 REEL Loans Enrolled

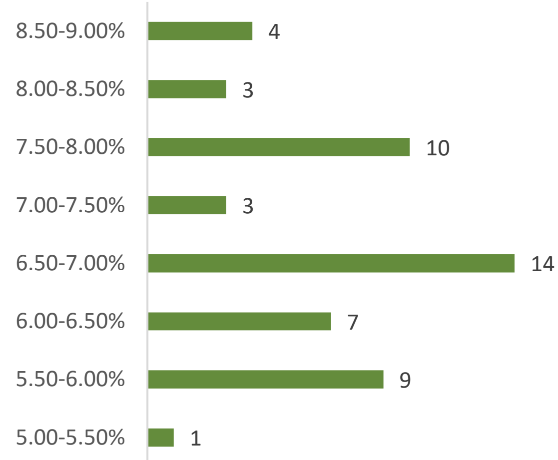
$17,954 Average Loan Size

$144,232 Total LLR Contributions

REEL Borrower Credit Scores



REEL Interest Rates



Top 3 Measure Types Installed During Q1 2019

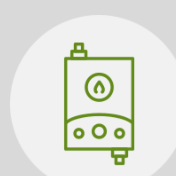
HVAC

Equipment and ductwork

BUILDING ENVELOPE

Air sealing, insulation, cool roofs, windows, etc.

WATER HEATING



Water heaters and low-flow fixtures

Outreach

Gogreenfinancing.com – The consumer-facing website for the CHEEF programs, which launched at the end of Q2 2018, continued attracting new and repeat visitors and helped drive REEL program activity during Q1 2019. Having an easy-to-use website where consumers can learn about the types of energy efficiency projects available to install, find local REEL contractors who can install the measures, and explore the financing options provided by REEL lenders (and even apply for a loan online) has had a big impact on the success of the program. CAEATFA and our partners continue to work to improve and expand the website to make it even more helpful and intuitive for consumers.

During Q1 the site had a total of 24,307 unique visitors, of whom 23,131 were new to the site. Visitors contacted lenders through gogreenfinancing.com in 1,721 instances. The value of CAEATFA's partnerships with the IOUs and lenders is highlighted by the fact that 39.35% of new users came to the site via links on other websites. Having inbound links from high-traffic, credible websites such as the IOU and lender sites is extremely beneficial for a new brand like gogreenfinancing.com, since it raises the site's value within the logical framework of the search engine algorithms.

Social Media – Throughout the quarter, CSE, the REEL marketing implementer, made 44 consumer-facing social media posts regarding REEL and GoGreen Financing on Facebook and Twitter.

Contractor Outreach – Frontier Energy, the REEL Contractor Manager, continued its outreach to potential REEL contractors and successfully enrolled 29 new contractors in the program over the course of the quarter. By the end of Q1, borrowers could choose from 322 contractors statewide.

IOU Customer Outreach – The marketing support of the IOUs is invaluable to the success of the REEL financing program. As trusted messengers, the IOUs have the opportunity to reach millions of customers with a single email. During the quarter each of the IOUs marketed REEL through a variety of channels. For example, SoCalGas ran energy efficiency financing messaging on outgoing residential bills and envelopes, included REEL program information in thousands of kits distributed to sixth-graders, and distributed 1,000 REEL-branded workout towels to gyms in Orange County. PG&E delivered REEL messaging in its March residential newsletter and continued running a bilingual message about energy efficiency on pge.com that mentions REEL. SCE attended a variety of local community events to raise awareness and drive traffic to GoGreen Financing. This outreach, coupled with digital marketing, helps build program awareness and increases visits to gogreenfinancing.com and the participating lenders.

Header images are those used on the GoGreen Financing website: www.gogreenfinancing.com/smallbusiness

The Small Business Energy Efficiency Finance (SBF) Program

The Small Business Finance (SBF) program regulations were approved by the Office of Administrative Law and went into effect on Dec. 17, 2018, setting the stage for full program launch in 2019. The SBF program seeks to:

1. Provide a state-backed financing program designed to address the energy efficiency challenges faced by small business owners and tenants
2. Provide an accessible—and attractive—financing option for small businesses
3. Provide a source of financing that allows deep energy retrofits in existing buildings

Financing through the program will be available to small businesses, nonprofits and market rate multifamily properties (5 or more units) that meet the following business size requirements: employ 100 or fewer individuals, have annual revenue of less than $15 million, or comply with SBA small business size classifications (annual revenue limits range from $750,000 to $38.5 million, depending on industry).

SBF will be available to both small business property owners and tenants.

To best accommodate the small business energy efficiency market, the program will facilitate a variety of financing instruments for potential customers to consider, including loans, equipment leases, service agreements and savings-based payment agreements; each participating finance company offers products from this menu of authorized instruments. Small business owners will be able to take out loans up to $5 million. Up to $1 million of the financed amount is eligible to receive a credit enhancement for qualifying measures, as follows:

- The first $50,000 of each financing agreement will be credit enhanced at 20%
- The remainder (up to an additional $950,000) will be credit enhanced at 5%
- Maximum loss reserve contribution will be $57,500

As with all Hub programs, eligibility requires that the property receive electric or natural gas service from at least one of the IOUs: PG&E®, SDG&E®, SCE® or SoCalGas®. Properties in areas served by Community Choice Aggregators (CCAs) or Electric Service Providers (ESPs) located within IOU territories qualify. Those in areas served by Publicly Owned Utilities (POUs) qualify only if they also receive energy service from an IOU.

Progress Overview

Following approval of the SBF program regulations in late Q4 2018, CAEATFA staff opened Q1 with a concerted push to develop SBF program structures and procedures with the goal of full program launch in Fall 2019. While developing processes, forms and training materials, staff continued recruiting and onboarding finance companies. In the second half of the quarter, staff began recruitment of contractors and project developers and planned a limited launch for April 2019.

Work also continued on a web-based user interface (UI) that will facilitate easy and efficient project enrollment on a larger scale in the SBF program. The interface is being developed by Concord Servicing Corp., the master servicer for Hub programs, with direction from CAEATFA staff. The UI initiative supports the Hub’s mandate to build scalable programs.

At the end of Q1, two finance companies have been enrolled in the SBF program, as well as four contractors and two project developers. On-demand training materials for contractors and developers have been created and are live. As a result of these successes and other progress in program development, CAEATFA expects to roll out a limited launch in Spring 2019 and full launch in Fall 2019, as planned.

Program Timeline

The Small Business Financing program entered Q1 2019 with three upcoming milestones:

1. Milestone 1 – Initial finance companies enrolled with approved products. Contractor and project developer enrollment begins (*met*)
2. Milestone 2 – Spring 2019: Limited program launch (*on track for April*)
3. Milestone 3 – Fall 2019: Financing offered to small businesses through fully launched SBF program *(on track*)

Limited Launch vs. Full Launch

During the limited launch of SBF, small business customers with qualifying projects will be able to obtain financing for up to $5 million in energy efficiency retrofits, choosing from products offered by a select group of finance companies. Credit-enhanceable energy saving measures will be restricted to a pre-qualified list during this phase. Contractors and project developers will submit project information directly to the finance company for manual processing.

By contrast, full program launch will feature more finance companies, contractors and project developers to choose from, as well as additional ways to qualify measures for credit enhancement (for example, through certification by an Association of Energy Engineers Certified Energy Manager). At full launch, contractors and project developers will be able to submit project information to the program using the web-based UI referenced above. As with the limited launch, full launch will allow qualifying projects to obtain financing for up to $5 million.

Enrolled Finance Companies

On March 6, 2019, Ascentium Capital, LLC enrolled in the SBF program offering equipment finance agreements for amounts between $10,000 and $1.5 million. Formed in 2011 with headquarters in Kingwood, Texas and offices in five states, Ascentium offers equipment and technology financing for the commercial, industrial, health care, and hospitality sectors.

On March 25, DLL enrolled in the SBF program offering loans, leases and service agreements for amounts between $10,000 and $5 million. Formed in 1959, DLL is a wholly owned subsidiary of Rabobank Group that offers business financing in more than 30 countries. Among its focus areas are the agricultural, clean technology, construction and health care sectors.

The table on the next page compares the products offered by the two finance companies.

Table 1. Enrolled SBF Finance Company Features

	ASCENTIUM CAPITAL	DLL
	Equipment finance agreements	Loans, leases & service agreements
AMOUNT AVAILABLE	$10,000 - $1,500,000	$10,000 - $5,000,000
	12 - 60 months Up to 84 months if req'd for cash flow	12 - 84 months Up to 120 months if req'd for cash flow
DOCUMENT FEES	$195 ($295 if prefunding)	$125 ($225 if financing > $250,000)
WHAT CAN BE FINANCED		
ENERGY EFFICIENCY & DR	Yes	Yes
NONENERGY SAVING MEASURES	Yes	Yes
DISTRIBUTED GENERATION	Yes	Yes
CUSTOMER ELIGIBILITY		
TENANT OCCUPANTS PERMITTED	Yes	Yes
MINIMUM MONTHS IN BUSINESS	12 months (up to $100,000) Greater amts require 18+ mos	18 months
FEATURES		
STREAMLINED UNDERWRITING PROCESS (ONE-PAGE APPLICATION)	Up to $250,000	Up to $125,000
FAST CREDIT APPROVALS	Within 2 business hours (up to $250,000)	Within 2 business hours (up to $250,000)
OTHER FEATURES	Prefunding up to 95% for contractors who satisfy a credit check	Progress payments or escrow funding for qualified contractors DLL can bill for and collect regular service and maintenance charges for contractors

Outreach

As noted above, the Small Business Energy Efficiency Financing program began finance company enrollment in the early months of 2019 and quickly followed with contractor and project developer enrollment. Integration efforts are underway with the IOU program channels, including Trade Professional networks and third-party program implementers.

CAEATFA staff attended or presented at several outreach events during Q1, including the Trade Professional annual kickoff meetings for PG&E (Feb. 19), SDG&E (March 6) and SCE (March 29).

Challenges / Contingencies

Micro lender – Research by the CPUC, IOUs and CAEATFA regarding the energy efficiency financing needs of small business point to the need for "micro" lenders, those who will offer loans of $5,000 or less. On-Bill Financing revolving loan programs offered by the IOUs do not offer loans of less than $5,000, so this is an important niche for SBF to fill. Based on input from the IOUs as well as the Small Business Baseline Study conducted by Opinion Dynamics for the CPUC in the fall of 2017, CAEATFA anticipates that there are many small businesses that will require these smaller financing amounts. CAEATFA intends to start this outreach to micro lenders in the second half of 2019.

Header images are those used on the GoGreen Financing website: www.gogreenfinancing.com/multifamily

The Affordable Multifamily Program

During Q1, CAEATFA focused on program design and outreach for the Affordable Multifamily (AMF) program, developing its regulations and holding a public workshop on February 26, 2019. Staff incorporated feedback and anticipates the regulations will be brought to the CAEATFA Board for consideration and approval in April 2019, followed by review by the Office of Administrative Law.

Following closely behind the rollout of the SBF program, the AMF program is able to leverage several of the processes and resources developed during the design of the SBF program, such as the Energy Saving Measures list and the data dictionary. These efficiencies put CAEATFA on schedule to meet its AMF launch goal of mid-2019.

Initial Program Design

Please note that the AMF program design described below is the "initial" design, as it is currently envisioned by CAEATFA. The design has been the result of a public workshop process and is subject to additional change resulting from added research and information, including stakeholder feedback.

Program Leveraging

A key efficiency of the AMF program design is integration with existing AMF programs, specifically the Low-Income Weatherization Program (LIWP), administered by the State's Department of Community Services and Development, and the Solar On Multifamily Affordable Homes (SOMAH) program, administered by the CPUC via a competitively selected team of non-profit organizations.

LIWP offers a generous incentive to qualifying AMF properties that install energy efficiency measures, and SOMAH requires the completion of an energy audit before issuing an incentive to install solar. Both programs have detailed processes and procedures already in place to encourage the installation of cost-effective energy efficiency measures, and CAEATFA is working toward integration with both programs to offer its attractive financing for the portion of the measures not incentivized.

Similarly, the AMF program will fund any energy efficiency or demand response measure approved for rebate and incentive by any IOU, REN or CCA, as well as any measure from the aforementioned Energy Saving Measures list.

Key Program Features

- No minimum or maximum financing size
- The first $1 million of each financing will be credit enhanced at 15% of the claim eligible amount
- Fixed or variable rates allowed
- No underwriting requirements imposed on the finance company. Underwriting is based on participating financier's requirements

Customer Eligibility

Any AMF property of 5 units or more, where at least 50% of the units are income restricted to 80% Area Median Income, is eligible for financing.

Financing Instruments

Similar to the Small Business Financing program, the AMF program intends to support varying financing product types such as loans, leases, service agreements and savings-based payment agreements.

Challenges/Contingencies

The debt stack for deed restricted affordable multifamily projects is complicated and restrictive; CAEATFA staff has been focused on identifying a financial instrument and program design that will help meet gaps and constraints.

Header images are those used on the GoGreen Financing website: www.gogreenfinancing.com/nonresidential

Nonresidential Program

The Nonresidential Program is not being actively developed at this time, as staff focuses on launching the off-bill programs while on-bill repayment is developed.

If the Nonresidential program is able to be developed before the end of 2019 – as required by the CPUC – it will be available to:

- for-profit businesses and nonprofit organizations that do not meet eligibility requirements for the Small Business Energy Efficiency Financing (SBF) Program
- public entities

Like all the financing programs, the Nonresidential program will be designed to encourage growth in private market lending. Though a credit enhancement will not be provided, the program will be designed to provide financing, which will be repaid on the utility bill, for building energy efficiency, distributed generation, battery storage and demand response projects. The flexibility of the program will allow the combination of financing with IOU rebates and other incentives.

In developing the SBF program design and regulations, CAEATFA anticipated how the program would need to be modified to incorporate the Nonresidential program as well as On-Bill Repayment functionality for SBF (see below). While some of the work done to establish the SBF program will be leveraged in the development of the Nonresidential program, as noted above, CAEATFA is not directing resources to this program at this time as it targets the launch of the off-bill version of SBF and AMF.

On-Bill Repayment (OBR)

Several programs will include On-Bill Repayment (OBR) as a key feature. CAEATFA staff has been working with the IOUs and the Master Servicer (MS) to establish the OBR infrastructure. The CPUC's recent Decision provided CAEATFA with the ability to offer off-bill repayment for the SBF and AMF programs. CAEATFA continues to work with its Master Servicer to develop OBR, while concurrently launching off-bill versions of the pilots. Currently, plans are being developed to initiate "penny testing" with all four IOUs this summer and fall with an eye toward incorporating OBR into the SBF and AMF programs in 2020.

Appendices

Appendix 1: CHEEF Infrastructure

CAEATFA is creating a statewide platform for finance companies and contractors to participate in the uptake of energy efficiency projects through increased access to financing. As the manager of the CHEEF, CAEATFA is developing uniform program requirements, standardized documentation and processes, and a central administrative entity to facilitate investment in energy efficiency projects and implementation of the programs.

Key infrastructure elements needed to implement the CHEEF include a Master Servicer, Trustee Bank, Secure Flow of Funds functionality, Contractor Manager, Data Manager, and Technical Advisors. Below are descriptions of each of these roles and information regarding their current status as it relates to CAEATFA's procurement processes.

Master Servicer

Organization	Concord Servicing Corporation
Duties	The Master Servicer plays a key role in the daily administration of the program(s), accepting loan enrollment applications, and processing on-bill repayment transactions.
Contract Term	1/1/18 – 12/31/2019
Notes	Option for a one-year extension.

Trustee Bank

Organization	US Bank
Duties	The Trustee Bank holds the ratepayer funds provided by the IOUs to serve as Credit Enhancements under the various programs. CAEATFA provides direction to the Trustee Bank to transfer CE funds between various accounts.
Contract Term	1/8/18 – 12/31/19
Notes	Option for a one-year extension.

Contractor Manager

Organization	Frontier Energy
Duties	The Contractor Manager recruits, enrolls, trains, supports and manages contractors in the REEL program, and conducts quality control oversight of projects not participating in an IOU rebate/incentive program. With the advent of the SBF program, CAEATFA issued a Request for Proposals for a universal contractor manager who will manage outreach, recruitment, enrollment and quality assurance for all pilots.
Contract Term	10/24/17 – 8/31/19
Notes	Option for a one-year extension.

Data Manager

Organization	TBD
Duties	The Data Manager will receive program data from the MS and other energy efficiency finance program administrators in order to prepare it for public presentation and use. It will also receive program-related energy savings data from the CPUC. The data will be aggregated and anonymized according to the combined standards and regulatory requirements of the IOUs and capital providers. The RFP for the competitive solicitation for this service has yet to be released while CAEATFA prioritizes its workload to develop and implement the programs. Concurrently, CAEATFA and its agents will continue to collect the appropriate data to ultimately be transmitted to the data manager when it is brought under contract.
Contract Term	TBD
Notes	TBD

Technical Advisors

Technical Advisors provide expertise to CAEATFA in the development and implementation of the CHEEF programs. CAEATFA currently uses the services of two technical advisors.

Organization	Energy Futures Group (EFG)
Duties	Provides technical assistance to continue research and development, and implementation assistance for the commercial programs.
Contract Term	3/29/17 – 2/14/19
Notes	In Q4 2018, CAEATFA released an RFP for the next Technical Advisor contract and expects to award the candidate in Q1 2019.

Appendix 2: Budget and Staffing Authorization

D.13-09-044 directs the IOUs to allocate a total of $75.2 million to finance the programs over the initial period. Table 2 provides an itemized breakdown of these allocations, current expenditures and remaining balance. As of March 31, 2019, CAEATFA had expended $8,158,152 of the $15.36 million allocated for CHEEF Administration, Direct Implementation, and Marketing, Education, and Outreach.

CAEATFA management continued to engage in the budgetary process to obtain legislative approval to extend budgetary reimbursement and expenditure authority beyond fiscal year 2017-2018 (June 30, 2018). This funding extension was approved in the 2018 Budget Act. CAEATFA will be seeking additional funding for program implementation beyond 2020 to align with the current program implementation timetable.

Table 2: Budget for CHEEF Expenditures (September 2014 through March 31, 2019)

Item	Allocated	Expended/ Encumbered[6]	Balance
CHEEF Administration			
Includes Start-Up costs, CHEEF administrative, direct implementation, outreach and training to finance companies and contractors, and contracting costs[7]	$ 13,360,000	$ 8,158,152	$ 5,201,848
Subtotal CHEEF Start-Up Costs	**$ 13,360,000**	**$ 8,158,152**	**$ 5,201,848**
Marketing, Education, Outreach (MEO)			
Statewide MEO plan	$ 8,000,000	(TBD)	$ 8,000,000
CAEATFA outreach and training to finance companies and contractors	$ 2,000,000	$ -[8]	$ 2,000,000
Subtotal Marketing, Education, and Outreach	**$ 10,000,000**	$ -[9]	**$ 10,000,000**
Residential Pilots Credit Enhancement Funds[16]			
Residential Energy Efficiency Loan (REEL)	$ 25,000,000	$ 913,131	$ 24,086,869
Energy Financing Line Item Charge (Funding to PG&E)	$ 1,000,000	(TBD)	$ 1,000,000
Affordable Multifamily	$ 2,900,000	$ -	$ 2,900,000
Subtotal Residential Pilots	**$ 28,900,000**	**$ 913,131**	**$ 28,086,869**
Non-Residential Pilots Credit Enhancement Funds			
Small Business sector with credit enhancement	$ 14,000,000	$ -	$ 14,000,000
Subtotal Non-Residential Pilots	**$ 14,000,000**	**$ -**	**$ 14,000,000**
Information Technology (IT)			
IT Funding to IOUs[10]	$ 8,000,000	*(TBD)*	$ 8,000,000
Subtotal IT Funding to IOUs	**$ 8,000,000**	***(TBD)***	**$ 8,000,000**
CHEEF Pilot Reserve			
CHEEF Pilot Reserve[11]	$ 984,931	$ -	$ 984,931
Subtotal CHEEF Pilot Reserve	**$ 984,931**	**$ -**	**$ 984,931**
GRAND TOTAL	**$ 75,244,931**	**$ 9,071,283**	**$ 66,173,648**

***Note**: Quarterly expenditures are based on good faith estimates due to a lag in invoice submittals.

[6] "Encumbered" refers to the credit enhancement funds reserved for enrolled loans under the Residential Energy Efficiency Loan (REEL) Loan Loss Reserve (LLR).

[7] Amount of funds allocated to this section includes the additional $8.36 million that was approved by CPUC Rulemaking 13-11-005: Joint Ruling of Assigned Commissioner and Administrative Law Judge on Financing Pilots and Associated Marketing, Education and Outreach Activities issued November 22, 2016.

[8] The expenses expended for this line item have been included in the expended/encumbered value presented in the CHEEF Administration line item above.

[9] This table is not a comprehensive representation of the budget. It does not reflect CSE's expenditures related to ME&O, the IOUs' expenditures and additional allocations for IT and administration, or other non-CAEATFA costs.

[10] IT funding to IOUs reports only the initial allocation and does not reflect current IOU expenditures.

[11] This amount reflects the remaining balance after the release of funds that was approved by CPUC Rulemaking 13-11-005: Joint Ruling of Assigned Commissioner and Administrative Law Judge on Financing Pilots and Associated Marketing, Education and Outreach Activities issued November 22, 2016.

[16] Actual credit enhancement dollars available less funds for operations setup by IOUs.

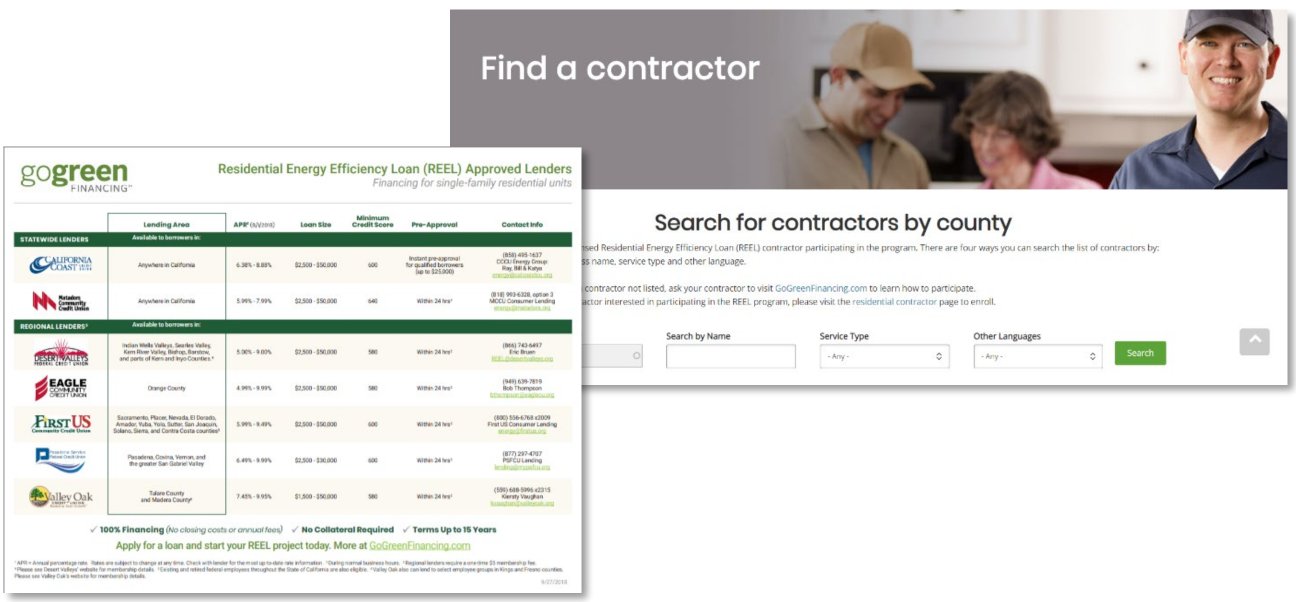
Appendix 3: Customer-Facing Products

Customer-facing products are discussed throughout this report, but this Appendix functions as a summary.

Designed and implemented by the CHEEF program marketing implementer, the Center for Sustainable Energy (CSE), with input and direction from CAEATFA and the IOUs, GoGreen Financing ([www.gogreenfinancing.com)](http://www.gogreenfinancing.com) serves as the primary customer-facing website for the financing programs.

GoGreen Financing contains information for end users (customers), contractors, finance companies and partners for each of the programs. Some of the resources on the website include:

- Pages that allow potential REEL borrowers to find a local REEL participating contractor, review the rates of participating lenders and apply for a REEL loan online through the participating lender's website.
- Program descriptions and benefits for the upcoming SBF, AMF and Nonresidential programs.
- Partner resources for contractors, finance companies, local governments and nonprofits (some of which are available to these organizations to co-brand), include:
  - A customer-facing REEL flyer, available in both English and Spanish
  - Social media ads / Facebook / Twitter
  - PowerPoint Presentations
  - Partner talking points



Appendix 4: Account Beginning and Ending Balances

IOU HOLDING ACCOUNTS

Funds from the IOU holding accounts were originally transferred to IOU-specific REEL program accounts. After the consolidation of REEL accounts to single, statewide accounts took place in December 2017, funds were transferred to the new, statewide REEL program Account. A total of $250,000 from each IOU has been deployed from the holding accounts.

The IOU holding accounts continue to earn a (very) small amount of interest each quarter, as shown below:

Table 3. Interest Earned on IOU Holding Accounts

	SCG	PGE	SCE	SDG&E
01/01/2019	$700.07	$699.45	$694.59	$693.03
03/31/2019	$700.59	$699.97	$695.11	$693.55

REEL RELATED ACCOUNTS

The *REEL program* account holds a portion of the IOU ratepayer funds, used to pay the LLR each time a loan is enrolled. The IOUs hold additional funds, budgeted for the REEL program, and those funds are available to be deposited to this account when needed.	The *REEL Reservation* account holds funds set-aside in the event a loan is pre-approved.	The *REEL Interest* account accrues the interest from the following accounts: REEL program, REEL Reservation and all seven REEL Lender LLR accounts.

Table 4: Balance of REEL Accounts

	REEL program	REEL Reservation	REEL Interest
01/01/2019	$229,004.39	$2,096.38	$2,543.92
Recaptured funds from paid off Loans (Matadors and Cal Coast)	$0.00	$0.00	$0.00
Additional Credit Enhancement (CE) Funds from the IOUs	$400,000		
Credit Enhancement (CE) Contributions	($144,232)	$0.00	$0.00
03/31/2019	$484,772.38	$2,096.38	$3,284.66

REEL LENDER LOAN LOSS RESERVE ACCOUNTS

Each time a lender enrolls a loan, the 11% or 20% LLR is paid from the "REEL program" account into the lenders Loan Loss Reserve Account. The ending balance shows the amount the lender has available to help offset a default, should they have a claim.

There were three claims during Q1 totaling $38,834.43.

Rebalance of Accounts

D. 13-09-44 directs CAEATFA to recapture funds, periodically, when loans are paid off and D. 17-03-026 gives CAEATFA the ability to true up its credit enhancement funds at its discretion. CAEATFA has chosen to do the recapture through an annual rebalancing. The rebalance will occur annually in July for the previous fiscal year running July 1-June 30. The original CE funds will be transferred from the Lenders Loss Reserve Account back to the Program Account. Rebalancing of the CE funds allows us to develop a sustainable program. The first rebalance of all LLR accounts, covering enrolled loans from July 2016 to June 30, 2018, took place in September 2018. Two lenders enrolled in our program had their accounts rebalanced due to having paid off loans.

Table 5: Balance of Lender Loan Loss Reserve Accounts

	California Coast	Matadors Community	Valley Oak	Desert Valleys	Eagle Community	Pasadena Svc Federal	First U.S. Community
01/01/2019	$486,613.33	$218,559.06	$7,580.97	$25,700.74	$12,614.84	$1,905.09	$15,925.20
Recaptured funds from paid-off loans	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Claims	($38,834.43)						
Credit Enhancement Contributions	$45,536.36	$67,615.91	$5,047.34	$8,508.28	$11,886.31	$0.00	$5,634.831
03/31/2019	$493,315.26	$286,174.97	$12,628.31	$34,209.02	$24,501.15	$1,905.09	$21,563.01

Appendix 5: Residential Program Participating Lender Overview

There are currently seven lenders offering REEL loans. A brief introduction to the lenders is included in this section. They are listed, chronologically, based on the date they entered the program.

Valley Oak Credit Union was the first credit union to join as a REEL lender, submitting its application in June 2015—nearly a year before the residential program started. Valley Oak has 7,300 members and serves Tulare and Madera counties.

Valley Oak is a Low-Income Designated credit union[12] and serves borrowers with credit scores starting at 580. Over the life of the program Valley Oak has enrolled six loans, with two enrolled loans in Q1 2019.

Matadors Community Credit Union is one of two statewide REEL lenders, meaning that it can offer loans to eligible customers anywhere in the state. Matadors has nearly 20,000 members and became a REEL lender in March 2016.

Matadors lowered its minimum credit score to 580 in Q4 2018. It enrolled 25 REEL loans during Q1 for a total of 110 loans since the program began.

Desert Valleys has just over 4,000 members and serves customers in portions of Kern, Inyo, and San Bernardino counties. It is a Low-Income Designated credit union and has been a REEL lender since August 2016.

Desert Valleys serves borrowers with credit scores starting at 580. Desert Valleys enrolled two loans during Q1 and a total of 14 loans since the program began.

California Coast Credit Union is the second of two REEL statewide lenders. Joining the REEL program in September 2016, "Cal Coast" has over 173,000 members.

Cal Coast serves borrowers with credit scores starting at 600. During Q1, it enrolled 17 loans for a total of 241 loans since becoming a REEL lender.

Eagle Community Credit Union serves Orange County residents. Eagle has just over 20,000 members. Eagle opted in to the Credit-Challenged facility by demonstrating additional benefits to credit-challenged borrowers, a new opportunity made available in September 2018 when the REEL regulations were modified. As a result, Eagle, and other REEL lenders who opt in to the Credit-Challenged program, receive the 20% credit enhancement for lending to borrowers with credit scores of less than 640.

Under the REEL program, Eagle serves borrowers with credit scores starting at 580. It enrolled two loans in Q1 2019 for a total of seven in the program.

[12] A designation made by the National Credit Union Administration. A federal credit union can receive a Low-Income Designation (LID) when a majority of its membership qualify as Low-Income Members.

As the name implies, Pasadena Service Federal Credit Union serves members in and around the City of Pasadena as well as federal employees statewide. With over 11,000 members, Pasadena Service Federal is a REEL credit union with a Low-Income Designation.

Pasadena opted in to the REEL Credit-Challenged facility, and accepts applications from customers with credit scores starting at 600. Pasadena enrolled its first loan in Q3 2018, and at the end of Q1 has one loan enrolled with the program.

First U.S. Community Credit Union was the most recent REEL lender to join the program, submitting its initial lender application in June 2018. First U.S. serves 12 Northern CA counties: Sacramento, Placer, Nevada, El Dorado, Amador, Yuba, Yolo, Sutter, San Joaquin, Solano, Sierra and Contra Costa.

Serving 25,000 members, First U.S. opted in to the REEL Credit-Challenged facility and considers borrowers with credit scores starting at 600. First U.S. enrolled three loans in Q1 for a total of 11 in the program.

Appendix 6: The Impact of the Credit Enhancement

The Credit Enhancement mitigates risk for lenders, yielding better loan terms for REEL customers and encouraging more energy efficiency lending that will help California achieve its greenhouse gas reduction goals

Based on the CAEATFA's agreements with REEL lenders, the credit enhancement has resulted in better terms and approval rates for REEL customers. When interested financial institutions submit an application to become a lender, CAEATFA asks them to describe their most similar loan product (typically an unsecured personal loan) and to describe their current interest rate, minimum credit scores, maximum loan amounts and maximum terms for these loans. With this information, CAEATFA is able to insure the final and approved REEL product has appropriate benefits for borrowers.

Because lenders are free to set their own underwriting criteria within the program guidelines, individual products vary from lender to lender. The table below gives some highlights of changes that resulted as a result of the credit enhancement. When a range is stated below, it generally ties back to the borrower's credit score.

Improvements:	California Coast (Your best interest.)	Matadors Community Credit Union	Valley Oak Credit Union (Rooted in Your Growth)	Desert Valleys Federal Credit Union	Eagle Community Credit Union	FirstUS Community Credit Union	Pasadena Service Federal Credit Union
	STATEWIDE LENDERS		REGIONAL LENDERS				
Interest Rate	Reduction ranged from 347 – 1097 bps[13]	Reduction ranged from 391 – 641 bps	Reduction ranged from 164 - 614 bps	Reduction ranged from 749 – 1000 bps	Reduction ranged from 675 – 1075 bps	Reduction ranged from 391 - 546 bps	Reduction ranged from 300 – 650 bps
Minimum Credit Score	No change from existing 600	Reduced from 660 to 580	No change from existing 580[14]	No change from existing 580[14]	No change from existing 580[14]	Reduced from 640 to 600	Reduced from 640 to 600
Maximum Loan Amount	Increased from $20,000 to $50,000	Increased from $15,000 to $50,000	Increased from $20,000 to $50,000	Increased from $2,500 to $50,000	Increased from $25,000 to $50,000	Increased from $25,000 to $50,000	Increased from $20,000 to $30,000
Maximum Loan Term	Increased from 5 years up to 15	Increased from 5 years up to 15	Increased from 5 years up to 15	Increased from 5 years up to 15	Increased from 5 years up to 15	Increased from 5.5 years up to 15	Increased from 5 years up to 15

[13] bps = Basis point, a common unit of measure for interest rates. A single basis point is equal to 1/100th of 1%, so 100 bps = 1%

[14] 580 is the REEL program minimum

The provision of a credit enhancement is at the heart of CHEEF's financing program design. As the table on the previous page shows, REEL lenders have made improvements to their existing underwriting criteria, as a result of the loan loss reserve, that significantly benefit potential borrowers. But to put these changes in perspective, it's important to be reminded of the lending landscape in the *absence* of a program like REEL, and to see how the credit enhancement helps achieve the goals for the financing programs.

Interest Rates *without* REEL

Though lenders traditionally look at a number of factors when determining if an applicant will receive a loan, and—if so—what rate they will pay, a borrower's credit score is one of the largest factors in determining the annual percentage rate for a personal loan. In general, the higher one's credit score, the lower the rate.

Nationwide Average APR for Personal Loans, 2018[15]

Rating	Credit Score	Average Unsecured Personal Loan APR
Poor	300 – 639	28.5% - 32.0%
Average	640 – 679	17.8% 19.9%
Good	680 - 719	13.5% - 15.5%
Excellent	720 – 850	10.3% - 12.5%

The data in the chart at left comes from a finance website that conducts in-depth research and analysis on a variety of financial topics, in this case, the average 2018 annual percentage rate for unsecured personal loans (where property is not used as collateral).

Note the impact a borrower's credit score has on the interest rate paid, with rates ranging from 10.3% to as high as 32%.

Now consider that REEL Q3 interest rates range from 4.99% to a high of 9.99%[16], and that several REEL lenders accept applications from borrowers with credit scores as low as 580.

How the Credit Enhancement Helps Achieve Program Goals

The Credit Enhancement is more than just a financial mechanism. For the CHEEF programs, it means the difference between achieving program goals—increasing the availability of lower-cost financing for energy investments throughout California, including for underserved borrowers—or not. Consider these potential outcomes for a borrower wishing to access $25,000 to upgrade their home's energy efficiency.

BORROWER WITH . . .	Without REEL	With REEL
…a lower credit score of 600	Borrower would be unlikely to qualify for a personal loan. **No program goals achieved.**	Borrower may qualify for a REEL loan for a term of 10 or 15 years, paying 9.99% or less. **PROGRAM GOALS ACHIEVED!**
…a higher credit score of 700	Borrower could likely take out a personal loan, paying the nationwide average of 13.5%. Since lenders seldom make unsecured personal loans for longer than 5 years, the resulting payment on a $25,000 loan would be $575. Borrower may not be able to afford the high monthly payment. **No program goals achieved.**	Borrower could likely take out the necessary REEL loan, paying the REEL average 7% interest for 15 years. The resulting monthly payment would be a manageable $225. **PROGRAM GOALS ACHIEVED!**

[15] https://www.valuepenguin.com/personal-loans/average-personal-loan-interest-rates#by-credit-score

[16] REEL interest rates are capped at the rate on new 10-year treasury bonds plus seven hundred and fifty (750) basis points